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ON CERTAIN RHACHIGLOSSATE GASTROPODA ELIMINATED FROM THE
AQUILLIDÆ.

BY H. A. PILSBRY AND E. G. VANATTA.

Among the smaller species described by the older authors as "Tritons," and referred by Tryon and others to the subgenus *Epidromus*, there exists some diversity in shell characters, and a much greater difference in the soft anatomy. Mörch many years ago eliminated his Muricid genus *Aspella* from this assemblage, and Kesteven, in an able and interesting paper, has recently shown an Australian species, *Triton speciosus* Angas, to belong to *Trophon*, figuring its operculum and teeth.¹

Another Muricid genus is represented by *Triton bracteatus* Hinds, and its allies, characteristic and widespread littoral Polynesian species. This group may be called

MACULOTRITON Dall.²

The shell is acuminate-oblong, longitudinally plicate and spirally tuberculate-lirate, with a smooth trochoidal nucleus of about $3\frac{1}{2}$ whorls. Aperture ovate, the outer lip thick, dentate within, and strengthened by a rounded varix outside, another varix often developed opposite it on the last whorl. Anterior canal open, very short. A small posterior sinus is defined by a low callous on the parietal wall. Operculum with basal nucleus.

¹ *Proc. Linn. Soc. N. S. Wales* for 1902, p. 479, fig. 3.

² In a paper issued last February, one of the present authors suggested that *Colubraria* Schum., which had always been associated with the Tænioglossate *Triton*, might prove to be Rhachiglossate, and remarked that "a series of Antillean and Pacific species referred to this division by Tryon and others, of which *decapitatus* Reeve and *bracteatus* Hinds are typical, belongs to the Rhachiglossa, as Mr. Vanatta and the writer will elsewhere show." In a paper on the Tritons and Frog-shells just issued, Prof. W. H. Dall adopts but does not define a family *Colubrariidæ* to include *Colubraria*, the groups we had indicated as Rhachiglossate, and one or two others. He anticipates the appearance of the data promised by us, by giving names to the groups we had indicated as Rhachiglossate. It remains, therefore, for us to substitute in our proof-sheets the names given by Dall for those we had written, and to expose the true characters and family relationships of the gastropods in question.

As to the "Family *Colubrariidæ*," the typical genus *Colubraria* is as yet known by the shell alone. The other groups referred to it by Dall, of which the dentition is known, belong without any doubt to the *Muricidæ* and *Buccinidæ*. Is science advanced by the formation of family groups upon such grounds?

The radula is Muricoid, the rhachidian tooth very wide, straight, with a long curved central cusp inserted far forward, and on each side there are two adjacent side cusps, the outer ones larger. Lateral teeth with a single slender cusp.

Type, *M. bracteatus* (Hinds).

The shell in this genus has much the appearance of the Buccinoid *Tritonidea*.

Maculotriron differs from *Ocenebra* (type *erinea* L.) in the form of the central teeth of the radula, which in *Ocenebra* have a very characteristic structure. The dentition in our new genus agrees with that of *Trophon clathratus* as figured by Troschel,³ but the conchological characters of these Indo-Pacific snails bar their entrance into *Trophon* or *Boreotrophon*.

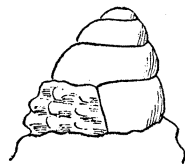


Fig. 1.—Apex of *Maculotriron digitalis* (Rve.), Viti Is.

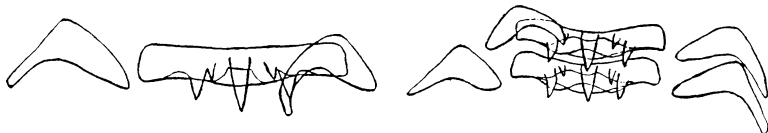


Fig. 2.—*Maculotriron digitalis* (Rve.), Hahajima, Ogasawara (87,491, A. N. S. P.).

Fig. 3.—*Maculotriron bracteatus* (Hds.) var., Hilo, Hawaii (85,843, A. N. S. P.).

The following species belong to *Maculotriron*:

Maculotriron digitalis (Rve.). *Triton digitalis* Reeve, *Conch. Icon.*, II, Pl. 19, fig. 86.

Maculotriron bracteatus (Hinds). *Triton bracteatus* Hinds, *Zool. "Sulphur,"* Moll., p. 11, Pl. 4, figs. 5, 6.

Maculotriron bracteatus lativaricosus (Rve.). *Triton lativaricosus* Reeve, *Conch. Icon.*, II, Pl. 19, fig. 90.

Maculotriron bracteatus longus Pils. See below.

Some other species will doubtless be added to the group. *Cantharus puncticulatus* Dkr. as figured by Sturany⁴ has much the appearance of our group, but its dentition is unknown. *Cantharus waterhousiae* Braz.,⁵ recently figured by Hedley,⁶ may also belong here.

³ *Das Gebiss der Schnecken*, Pl. 11, fig. 17.

⁴ *Gastropoden des Rothen Meeres*, in *Denkschr. der math.-naturwiss. Cl. der K. Akad. der Wissenschaften*, LXXIV, p. 242 (34), Pl. 7, fig. 4. Tryon has suggested that *Buccinum seriale* Desh. is identical with *puncticulatus*.

⁵ *Proc. Linn. Soc. N. S. Wales* XXI, 1896, pp. 345, 818.

⁶ *Proc. Linn. Soc. N. S. Wales*, 1899, p. 434, fig. 7.

BUCCINIDÆ.

Another series of species, formerly placed in *Triton*, proves to belong to the *Pisania-Tritonidea* group of *Buccinidæ*; and for them a new sub-genus of *Tritonidea* may be erected.

CADUCIFER Dall.

The shell in this group resembles that of *Tritonidea* in sculpture and characters of the aperture, but it is more slender than in that genus. The teeth resemble those of *Euthria lineata* as figured by Troschel. The teeth of the central row have a group of three cusps springing from a short, arcuate basal-plate. The laterals have large curved cusps at the outer and inner margins, with a smaller intermediate cusp near the inner one.

Type *T. truncata* (Hinds).

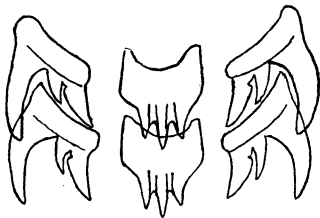


Fig. 4.—*T. decapitata* (Rve.), Mauritius (58,058, A. N. S. P.).

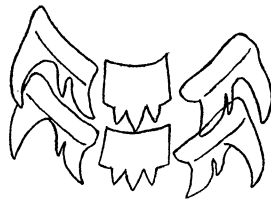


Fig. 5.—*T. parva* C. B. Ad., Port Antonio, Jamaica (62,041, A. N. S. P.).

This group comprises the following species:

- **Tritonidea* (*Caducifer*) *decapitata* (Rve.). *Triton decapitatus* Rve., *Conch. Icon.*, II, *Triton*, Pl. 18, fig. 85.
- Tritonidea* (*Caducifer*) *cylindrica* (Pse.). *Triton c.*, Pease, *Amer. Jour. Conch.*, IV, p. 94, Pl. 11, fig. 9.
- **Tritonidea* (*Caducifer*) *truncata* (Hinds). *Triton truncatum* Hinds, *Zool. "Sulphur,"* p. 11, Pl. 4, figs. 9, 10.
- Tritonidea* (*Caducifer*) *eximia* (Rve.). *Triton eximius* Rve., *Conch. Icon.*, II, Pl. 18, fig. 77.
- **Tritonidea* (*Caducifer*) *parva* (C. B. Ad.). *Triton parvus* C. B. Adams, *Contrib. to Conch.*, No. 4, p. 59.
- Tritonidea* (*Caducifer*) *parva intricata* (Dall). *Phos parvus* var. *intricatus* Dall, *Trans. Wagner Inst.*, III, p. 131.

The dentition has been examined in the three species marked with an asterisk, the third species being the type. The other forms mentioned have been added from their close conchologic resemblance to

those known to belong together. Probably some other species will be found to belong here. Some of the species lose their early whorls in the adult stage, and are abruptly truncate, an unusual condition in the *Buccinidæ*. The group is not closely related to *Phos* (type *P. senticosus*) or to *Nassaria*.

Triton decollatus Sowb., *Conch. Icon., Triton*, Pl. 18, fig. 82, left in *Epidromus* by Tryon, is identical with *Pisania strigata* Pease, *Amer. Jour. of Conch.*, IV, Pl. 11, fig. 6, which Tryon correctly includes in the genus *Pisania*. [Dall has erected a section *Tæniola* for it in his heterogeneous genus *Colubraria*; but it clearly belongs to *Pisania*.]

***Maculotriton bracteatus longus* n. subsp.**

The shell is much more slender than *M. bracteatus*,⁷ gray-white with a band of black-brown spots at the periphery on the tubercles of every rib, another on the base extending into the concavity, and an irregular series of more widely spaced spots below the suture. The single varix strengthens the lip. Sculpture as in *M. bracteatus*, the ribs coarser than in *M. digitalis*.

Length 11.5, diam. 4.7 mm.

Tanabe, Kii. Types No. 86,288, A. N. S. P., from No. 1,400 of Mr. Hirase's collection. Also Hachijo-jima, Izu, Hirase, No. 1,393.

⁷ *Triton bracteatus* Hinds, *Zool. "Sulphur,"* p. 11, Pl. 4, figs. 5, 6. Type locality Marquesas Islands. A series of several hundred specimens collected there by C. D. Voy agrees closely with the type figures in size and coloration. East Indian and some Polynesian specimens are often larger.